

# Glossary

**Agriculture:** The science and art of food and fiber.

**Biography:** Factual story of a person's life.

**Biotechnology:** The development of a product or products using biological agents. In the past, these agents have been yeasts, molds, enzymes and bacteria used in such processes as wine-making and in bread and cheese production. Recently, biotechnology is identified with techniques that collectively allow the precise identification, isolation, alteration, and re-introduction of heritable traits to living organisms for specific purposes.

**Burbank, Luther:** Famous agricultural botanist who created new varieties of fruits and vegetables.

**Carver, George Washington:** A botanist known for his studies on many commodities including peanuts and cotton.

**Cell:** The smallest structural unit of a living organism that is able to grow and reproduce independently.

**Chromosome:** Rod or thread-like structures found in cell nuclei; contains the DNA molecules that make up the chromosome's genes.

**Co-dominant:** A circumstance where the two alleles (or genes) for a specific trait are equally strong; a mixture of the two phenotypes results; e.g. pink snapdragons from a red and white cross.

**Comparison:** To examine similarities and differences.

**Cross breed:** To take plants or animals of the same species and breed them with the same kind of plant or animal that has different characteristics. For example, pollinating short corn plants with pollen from tall corn plants with the hope of producing taller plants.

**Deoxyribonucleic Acid (DNA):** The chemical that makes up genes (the information molecules for the cell); looks like a spiral ladder, with sugar and phosphate groups the ladder sides and the four bases (adenine, cytosine, guanine and thymine) as the rungs.

**Dominant:** A gene or allele that is expressed or "shown" in the phenotype regardless of the nature of the other gene or allele.

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**Equestrian:** Having to do with horses.

**Express:** In genetics, to show the characteristics of a specified gene.

**Family Tree:** A graphic representation of ancestry.

**Fox, Sally:** A grower of colored cotton.

**Gene:** The basic unit of informational inheritance consisting of a sequence of DNA and generally occupying a specific position within a genome. Genes may be structural, which encode for particular proteins; regulatory, which control the expression of the other genes; or genes for transfer RNA.

**Genetic Code:** The groups of three nucleotide bases (codons) which specify a particular amino acid.

**Genetic Engineering:** The process whereby the DNA of living organisms is altered so that new traits are produced in the organism.

**Genetics:** The study of DNA and heredity.

**Heredity:** The passing of genetic traits, based on the DNA code, from parents to offspring.

**Interview:** To speak with someone for a specific purpose.

**McClintock, Barbara:** A famous geneticist who won a Nobel Prize.

**Mendel, Gregor:** A monk who studied the genetics of peas.

**Natural Selection:** The mechanism by which evolution operates; says that individuals who are best adapted to their environment will have a better chance to pass on their genes to their offspring; “survival of the fittest.”

**Outcome:** The results of a combination of genes.

**Paint Horse:** A quarterhorse with certain types of markings.

**Produce:** Fresh fruits and vegetables.

**Quarterhorse:** A special type of horse known for its big hips, short back, long neck, and a small head.

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**Recessive:** An allele or gene that is not expressed or “shown” in the phenotypes. This is usually “hidden” by a dominant gene.

**Selective Breeding:** Continuous breeding of particular organisms to obtain a desired trait or traits.

**Technology:** The study of applied sciences such as engineering and mechanics.

**Trait:** A specific inherited characteristic.

**Variation:** Something different than the original.